

ABSTRACT OF THE DISCLOSURE

APPARATUS AND METHOD FOR ADAPTIVELY CONTROLLING POWER

SUPPLIED TO A HOT-PLUGGABLE SUBSYSTEM

Abstract

An apparatus and method for adaptively controlling power supplied to a hot-pluggable subsystem controls the inrush current of the hot-pluggable subsystem when the subsystem is coupled to another system that supplies power, and optionally other signal connections. The apparatus and method adaptively control a pass device by detecting the voltage at the gate of the pass device during initial charging of the gate. The gate voltage may be sampled and used subsequently to control the operation of the pass device, and short-circuit conditions may be detected by determining that the miller effect does not change the charging of the gate capacitance. Automatic restart circuitry can be included to generate multiple startup attempts, and under-voltage lockout circuitry and power-on-reset timers can be used to provide a robust solution. The apparatus and method can be adapted to provide a three terminal device that does not require a feedback connection from a power supply output. The three terminal device may include the pass device, or may control an external pass device.